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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/670,267	09/26/2003	Robert A. Blakley	87326.3203	4932

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EXAMINER

SORKIN, DAVID L

ART UNIT	PAPER NUMBER
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1723

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/27/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/670,267

Applicant(s)

BLAKLEY ET AL.

Examiner

David L. Sorkin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12 January 2007 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 3-24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. There is no support for the new limitations "wherein each of said first generally planar portion, first tip portion and first trailing edge are solid, non-perforated blade portions" and "wherein each of said first generally planar portion, first tip portion and first trailing edge are solid, non-perforated blade portions". The concept of perforated vs. non-perforated is not found in the original filing. Further regarding claim 13, welding the blade pair to the flange was not described in combination with the releasably friction fit limitations of parent claim 3.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 1-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 1, there is lack of antecedent basis for "the impeller". In claim 1, the final phrase "wherein the flange fit key member, and is releasably frictionally fit at a location of the shaft" is confusing. Claim 3 is confusing because it recites "A impeller ... comprising a rotatable shaft; and a flange"; whereas the rotatable shaft and flange are not really part of the impeller as described in the specification. In each of claims 15-24, there is lack of antecedent basis for "the impeller". Regarding claims 11, 12, 14, 23 and 24, the double recitation of the blots, holes, key member, etc. is confusing. Regarding dependent claim 13, recitation of the blade pair being welded to the flange appear to contradict the base claim.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klepeis (US 5073,033) in view of Neuteboom (US 1,288,136). Klepeis ('033) discloses a rotatable shaft (2); a flange (6) extending radially from the shaft; an impeller having a central hub and first and second blades extending from the hub each having a planar portion and a generally triangular tip portion (12,14) which meet at an angle along first and second lines which do not pass through the centerline of the said central axis.

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However the blade pair is not attached to the shaft in the recited manner. Neuteboom ('136) teaches attaching a blade pair (b) to a rotatable shaft (a) having a flange (c), the flange having a frictional fit key member (c⁵), and is releasably frictionally fit at a location along the length of the shaft. A clamp member (e) is disposed on the opposite side of the blade pair member from the flange, and a plurality of bolts (h) that pass through the flange, the blade pair and the clamp member to frictionally clamp the flange the blade pair and the clamp member together, wherein the flange fit key member, and is releasably frictionally fit at a location on the location of the shaft. It would have been obvious to one of ordinary skill in the art to have attached the blade pair of Klepeis ('033) in the manner taught by Neuteboom ('136) to improve centering of the blade pair and to avoid breaking the shaft (see Neuteboom '136 at page 2 lines 5-20).

8. Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnard ('800) in view of Neuteboom ('136). Barnard ('800) discloses an impeller comprising a unitary blade pair member (30) comprising a central hub portion; and first and second blades radially extending from said central hub portion, said first and second blade respectively having first and second generally planar portions (34), a first and second tip portions (35 and 36) and a first and second trailing edges, wherein the first generally planar portion and said first tip portion are at an angle to each other and intersect along a first line of intersection which first line of intersection does not pass through the centerline of said central axis and the second generally planar portion and said second tip portion are at an angle to each other and intersect along a second line of intersection which second line of intersection does not pass through the centerline of

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said central axis (see Figs. 3 and 5). The first tip portion is generally triangular and said second tip is generally triangular (see Fig. 3). However the blade pair is not attached to the shaft in the recited manner. Barnard ('800) teaches attaching a blade pair (b) to a rotatable shaft (a) having a flange (c), the flange having a frictional fit key member (c⁵), and is releasably frictionally fit at a location along the length of the shaft. A clamp member (e) is disposed on the opposite side of the blade pair member from the flange, and a plurality of bolts (h) that pass through the flange, the blade pair and the clamp member to frictionally clamp the flange the blade pair and the clamp member together, wherein the flange fit key member, and is releasably frictionally fit at a location on the location of the shaft. It would have been obvious to one of ordinary skill in the art to have attached the blade pair of Barnard ('800) in the manner taught by Neuteboom ('136) to improve centering of the blade pair and to avoid breaking the shaft (see Neuteboom '136 at page 2 lines 5-20). Numerical value for the claimed angles are not disclosed by Barnard ('800), but as seen in Figs. 3 and 5, the angle is approximately as claimed. The claims make reference to dimensions of items not being claimed, such as a mixing vessel, however, such discussion of which is not being claimed, is not germane to what is being claimed.

Response to Arguments

9. Applicant states that the limitation considered to be "new matter" have "been deleted in each of the independent claims", but this is not true. Independent claims 3 and 15 each still contain two occurrences of the "solid, non-perforated" limitation.

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10. Applicant points out that Barnard ('800) does not disclose some of the new limitations of the independent claims. However, Neutboom ('136) is relied upon as evidence of obviousness.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David L. Sorkin whose telephone number is 571-272-1148. The examiner can normally be reached on 9:00 -5:30 Mon.-Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L. Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


David L. Sorkin
Primary Examiner
Art Unit 1723

DLS